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November 6, 2000

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Re: Filing of New U.S. Utility Patent Application
Title: System and Method for Automated Database Assistance to Financial Service Operators
Inventors: Rajesh HORA, Dublin, OH
Lisa Maria DOMMER, Reynoldsburg, OH

Dear Sir:

Attached is a new patent application for filing in the United States Patent and Trademark Office including ten (10) pages of Specification, three (3) pages of Claims (numbered 1-26), one (1) page Abstract, four (4) sheets of Drawings (labeled Figs. 1-4), an unexecuted Declaration.

The filing fee is calculated as follows:

				AMOUNT
BASIC FILING FEE				\$710.00
No. of Claims		No. in Excess	Rate	
Number of Claims in Excess of: 20	26	6	\$18.00	108.00
Independent Claims in Excess of: 3	2		\$80.00	.00
First Presentation of Multiple Dependent Claims			\$ 270.00	
Reduce by 1/2 for Small Entity				.00
Assignment Recordation Fee				0.00
TOTAL FEE DUE				\$818.00

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Page 2

A check in the amount of \$818.00 is attached to cover the basic application filing and additional claims and recordation fees. In the event of any variance between the amount enclosed and the Patent and Trademark Office charges, please charge or credit any difference to the undersigned's Deposit Account No. 50-0206.

Please direct all communication concerning this application to:

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Respectfully submitted,

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Dated: November 6, 2000

5 **SYSTEM AND METHOD FOR AUTOMATED DATABASE ASSISTANCE TO**
FINANCIAL SERVICE OPERATORS

FIELD OF THE INVENTION

10 The invention relates to the field of information processing, and more particularly to
the deployment of integrated, interrogatable information services for call center and other
personnel providing realtime financial information and support to customers.

BACKGROUND OF THE INVENTION

15 The increasing size and liquidity of the financial capital and other markets has placed
increasing demands on financial support infrastructure. Companies offering mutual fund,
brokerage, retirement and other portfolio accounts and services find it necessary to make
investment information readily accessible to their customers and to potential new customers,
in order to stay competitive in the marketplace. In the case of mutual fund services, accessing
and relating any one of the multiple categories of information which a customer or potential
20 customer may inquire about is particularly difficult, let alone in realtime.

25 This is in part because mutual funds typically maintain and must make available a
whole spectrum of associated information, such as investment fund types, yields, returns,
dividend, cost information, constituent equities, redemption policies, state and federal taxes
and other data. A mutual fund company offering an (800) number to reach a call center dial-
up facility to handle existing and potential client inquiries may find that fielding and
satisfying random questions about any combination of those sets of information is a difficult
challenge.

5 For instance, an existing customer may call in and ask whether shifting their allocated investment fund balance to another type of fund, such as a tax-free municipal or other fund, would affect their federal income tax rate. With existing call center systems, service operators may have access to a computer workstation on which some information may be accessible. However, in those operations at most a subset of the complex of information
10 surrounding the accounts of clientele is stored, and many pieces of information are presented or updated in printed hardcopy format which must be examined by hand while keeping the caller on the line.

This leads to shuffling, backtracking, and delay time as the service operator attempts to string the necessary information together to answer the customer inquiry. Average call
15 hold times and other call center metrics may be degraded, and customer satisfaction may be affected because the data is uncoordinated and can not be assembled in real time. These and other drawbacks exist.

SUMMARY OF THE INVENTION

20 The invention overcoming these end of the drawbacks in the art relates to a system and method for automated database assistance to financial service operators, in which a transaction server containing an interface to multiple sources of information supports the service operator staffing a call center or other operation. Because a variety of information sources are collected and gated via one access resource, it is no longer necessary for service
25 operators to search for the location of data that a customer may request. Furthermore, since interfaces may be provided to multiple data sources, a range of queries may be carried out against that financial and other information to satisfy customer requests. Call latency is

5 reduced, efficiency is increased, and the quality and responsiveness of information available to customers is improved.

BRIEF DESCRIPTION OF THE DRAWINGS

10 The invention will be described with reference to the accompanying drawings, in which like elements are referenced with like numerals.

Figure 1 illustrates an overall architecture for customer service processing according to one embodiment of the invention.

Figure 2 illustrates a general product hierarchical interface as used by a service operator in one embodiment of the invention.

15 Figure 3 illustrates a user interface to service operators operating a workstation according to the invention to fulfill client requests.

Figure 4 illustrates a flowchart of inquiry processing according to the invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

20 An overall architecture for the integrated support of customer service according to the invention is illustrated in Figure 1. As shown in that figure, one or more existing or potential customers 102a . . . 102n may communicate over communications link 104 to an information center 122, to inquire about existing or potential financial or other products. The customer's operating clients 102a ... 102n may be or include, for instance, a personal computer running
 25 the Microsoft Windows™ 95, 98, Millenium™, NT™, or 2000, Windows™CE™, PalmOS™, Unix, Linux, Solaris™, OS/2™, BeOS™, MacOS™ or other operating system or platform. Clients 102a ... 102n may also be or include a network-enabled appliance such as a WebTV™ unit, radio-enabled Palm™ Pilot or similar unit, a set-top box, a networkable

5 game-playing console such as Sony Playstation™ or Sega Dreamcast™, a browser-equipped cellular telephone, or other TCP/IP client or other device.

The communications link 104 over which the customers communicate with information center 122 may be, include or interface to any one or more of, for instance, the Internet, an intranet, a PAN (Personal Area Network), a LAN (Local Area Network), a WAN (Wide Area
10 Network) or a MAN (Metropolitan Area Network), a frame relay connection, an Advanced Intelligent Network (AIN) connection, a synchronous optical network (SONET) connection, a digital T1, T3, E1 or E3 line, Digital Data Service (DDS) connection, DSL (Digital Subscriber Line) connection, an Ethernet connection, an ISDN (Integrated Services Digital Network) line, a dial-up port such as a V.90, V.34 or V.34bis analog modem connection, a
15 cable modem, an ATM (Asynchronous Transfer Mode) connection, or FDDI (Fiber Distributed Data Interface) or CDDI (Copper Distributed Data Interface) connections. Communications link 104 may furthermore be, include or interface to any one or more of a WAP (Wireless Application Protocol) link, a GPRS (General Packet Radio Service) link, a GSM (Global System for Mobile Communication) link, a CDMA (Code Division Multiple Access) or TDMA (Time Division Multiple Access) link such as a cellular phone channel, a
20 GPS (Global Positioning System) link, CDPD (cellular digital packet data), a RIM (Research in Motion, Limited) duplex paging type device, a Bluetooth radio link, or an IEEE 802.11-based radio frequency link. Communications link 104 may yet further be, include or interface to any one or more of an RS-232 serial connection, an IEEE-1394 (Firewire) connection, a
25 Fibre Channel connection, an IrDA (infrared) port, a SCSI (Small Computer Systems Interface) connection, a USB (Universal Serial Bus) connection or other wired or wireless, digital or analog interface or connection.

5 The information center 122 may be or include, for example, a call center operation including an automatic call distributor (ACD) 106 which receives incoming client communications over the communications link 104 for distribution to one or more service workstations 108a ... 108n over communications link 124. Each of the service workstations 108a ... 108n may be or include similar hardware or platforms as the clients 102a ... 102n.

10 The service workstations 108a ... 108n may be operated by human attendants who may view service interface 120 on a computer screen or other viewable or audible interface to direct and answer customer inquiries. Each of the service workstations 108a ... 108n may include storage 124 such as a hard disk, a removable magnetic disk, an optically readable disk, or other media.

15 In the illustrated architecture according to the invention, each of the service workstations 108a ... 108n may be connected to a transaction server 112 via communications link 110. The transaction server 112 may be or include, for instance, a workstation running the Microsoft WindowsTM NTTM, WindowsTM 2000, Unix, Linux, Xenix, IBM AIXTM, Hewlett-Packard UXTM, Novell NetwareTM, Sun Microsystems SolarisTM, OS/2TM, BeOSTM,
20 Mach, Apache, OpenStepTM or other operating system or platform. The transaction server 112 serves as a gateway to one or more information sources 116a ... 116n communicating with transaction server 112 via communications link 114. The information sources 116a ... 116n may include, for example, the commercial LipperTM, BisysTM, Morning StarTM, Performance GroupTM, Research GroupTM, or other database, on-line or other sources of
25 financial or other information.

Each of the information sources 116a ... 116n may generate and communicate the same or different types of information, such as equity information, debt instrument information, tax information, or others. The transaction server 112 may include or

5 communicate with a local database 118, to which transaction server 112 may store intermediate search results and other information. Unlike prior service infrastructures in which each of the service workstations 108a ... 108n may have been connected to information sources directly and independently and in an uncoordinated manner, the transaction server 112 coordinates and localizes the interface to a variety of information sources of interest to mutual fund and other consumers. The attendants staffing the information center 122, therefore, have access to a unified interface to a number of information sources, any one or more of which may be interrogated and compared against customer investment criteria or profiles to satisfy client inquiries.

Upon receipt of a new customer inquiry from one of clients 102a ... 102n, an attendant may receive the incoming telephone call via automatic call distributor 106 or other contact and call up a non-product specific interface 242 on service interface 120, such as the hierarchical interface illustrated in Figure 2. As shown in that figure, the attendant operating the service work station 108a ... 108n may view a variety of high-level categories of information that may be used to service the client inquiry, below which lower-level categories may be accessed to respond to specific client needs. As illustrated in Figure 2, the high-level categories may include product basics 202, B/D information 204, operations information 206, respective information 208, federal tax information 210 and team listing default information 220.

Many customer inquiries may be responded to quickly with upper-level information obtained by clicking or otherwise activating any one or more of the information categories, such as product basics 202 to advise a customer on the line concerning basic varieties of investment strategy or other financial profiles. However, advantageously in the invention further subcategories are immediately available to the attendant, affording the ability to drill

5 down into further levels of categories of information, such as more detailed tax information below the federal tax information 210. As illustrated in Figure 2, that subcategory of information may include state tax information 212, miscellaneous tax information 214, historical tax information 216 and tax forms mailing schedule 218, all of which may be visible on service interface 120 upon clicking or other action by the attendant.

10 Therefore, if the customer inquires whether a particular fund or other investment will be taxable at state or local levels, the service attendant operating the user interface 120 according to the invention may drill down through federal tax information 210 and other levels quickly and conveniently answer the question, without the need to resort to manual retrieval.

15 Similarly, the service attendant may be provided with other options on the user interface 120, such as a print report option 228 giving the service attendant the ability to call up, fax, email, print or otherwise process a variety of information including a daily information report 230, a team listing report 232, a month data report 234 and a monthly portfolio status report 236 for reference, mailing to the customer or for other use. The user
20 interface 120 may likewise as illustrated in Figure 2 give the service attendant the option to return to fund information 238 after drilling down to subcategory levels, or present a clickable link to the last fund interface that the service attendant located 240, for ease of retracing and navigation. Moreover, under the team listing default information 220, further information such as RIS information 222, independent information 224 and a print team
25 listing report 226 may be made available.

The set of categories of information provided to service attendants processing customer inquiries is extensible, and various subcategories of information may be added to or modified as well. Since as illustrated in Figure 1 the service interface 120 presented on

5 service workstation 108a ...108n may access information by way of a unified transaction server 112, all sources of information may be incorporated or linked in the interface and made available to the attendants for realtime interrogation and response to inquiries.

As illustrated in Figure 3, the service interface 120 may be present the service attendant with a variety of detailed information on individual mutual fund or other searchable,
 10 particular financial products in response to specific inquiries. As shown in Figure 3, an attendant at service workstation 108a ... 108n may click to a fund-specific information page containing a variety of information fields related to that particular product, for example including a fund tree 304 indicating species of funds available within a given provider, a pricing and yield seal 306 to indicate net asset value (NAV) and other information, a yield
 15 field 308 to indicate percent returns, a break point field 310 to indicate various investment levels and a winkable product basic 312 to indicate further available information for that product.

That further information may include tax information or a prospectus for potential customers who may receive such information before purchase activity. The information
 20 shown in product-specific interface 302 or generated elsewhere in the invention may be related to the customer waiting on client 102a ... 102n verbally by telephone, via e-mail, pager, portable network device or other media. The information presented in the product-specific interface 302 may be generated by or accessed from one or more of the information sources 116a ... 116n via the transaction server 112 when interrogated by service workstation
 25 108a ... 108n operated by the client servicing attendant. Any one or more of the fields shown in product-specific interface 302 may be linkable to other levels or information sources, such as to obtain more detailed information, information over a longer or different period of time or to access related information such as other funds or product families.

5 However, since all such information is channeled through and presented by service interface 120, the service attendant is relieved of the necessity to manually locate or correlate the information being related.

 An overall flow chart of processing according to the invention is illustrated in Figure 4. In step 402, processing begins. In step 404, a service attendant logs in and/or is
10 authenticated to operate the service workstation 108a ... 108n on which their working. In step 406, a service inquiry may be received from a client via the automatic call distributor 106. In step 408, the service attendant may interact with customer to determine the nature and details of their inquiry. In step 410, the service attendant may navigate to an appropriate location on service interface 120, such as to non-product specific interface 242 or product-
15 specific interface 302. In step 412, service attendant may execute a service query via the transaction server 112 according to the customer's questions.

 In step 414, the transaction server 112 may interrogate one or more of the information sources 116a ... 116n to satisfy the query of step 412. In step 416, the results may be displayed on service interface 120 and reported to the customer via their client 102a ... 102n.
20 In step 418, the query results or other information may be stored, for instance in storage 124 of the service workstation 108a ... 108n or in local database 118 of transaction server 122 for further use or modification. In step 420, the service attendant may navigate to service screen for query modification, as necessary. In step 422, the service attendant may operate the service workstation 108a ... 108n to interrogate or modify the queried information, such as
25 via storage 124, local database 118 or via information sources 116a ... 116n. In step 424, the service attendant may communicate results to a next-stage provider as necessary, such as to hand off the customer and their inquiry to a security broker or other party. In step 426, the

5 call is terminated and the automatic call distributor 106 frees up the workstation for a new event. In step 428, processing ends.

The foregoing description of the system and method of the invention is illustrative, and variations in configuration and implementation will occur to persons skilled in the art. For instance, while the invention has been described in terms of a architecture in which a
10 single transaction server 112 acts as a gateway to multiple information sources, the transaction server processing may be distributed amongst different computing resources, within or without information center 122, cooperating to provide an integrated port to the information center 122. Likewise, while the invention has generally been described with
15 respect to financial products and specific mutual fund data hierarchies, other product types may be serviced according to the infrastructure of the invention. The scope of the invention is accordingly intended to be limited only by the following claims.

5

IN THE CLAIMS

What is claimed is:

1. A system for realtime access to support information, comprising:

a service interface to an operator servicing at least one inquiry; and

10 a navigation interface, communicating with the service interface, the navigation interface operative to access at least one network-enabled information source to generate support information responsive to the at least one inquiry.

2. The system of claim 1, wherein the service interface comprises a workstation.

3. The system of claim 1, wherein the at least one inquiry is received via a
15 telephone call.

4. The system of claim 1, wherein the at least one inquiry is received via a network-enabled connection.

5. The system of claim 4, wherein the network-enabled connection comprises an Internet connection.

20 6. The system of claim 1, wherein the navigation interface comprises a search engine interface to interrogate the at least one network-enabled information source according to the at least one inquiry.

7. The system of claim 6, wherein the at least one network-enabled information source comprises at least one of a financial information feed, a tax information database, and
25 a customer account database.

8. The system of claim 6, wherein the at least one network-enabled information source comprises a plurality of network-enabled information sources.

5 9. The system of claim 1, wherein the navigation interface comprises a Web browser.

 10. The system of claim 9, wherein the service interface comprises at least one of a product-specific Web page and a non-product specific Web page.

 11. The system of claim 1, wherein the service interface is provided in a call
10 center receiving the at least one inquiry.

 12. The system of claim 1, wherein the support information comprises information related to mutual fund products.

 13. The system of claim 1, wherein the navigation interface is operable to modify the information based upon further inquiry information.

15 14. A method for providing realtime access to support information, comprising:
 a) receiving at least one inquiry via a service interface; and
 b) accessing at least one network-enabled information source to generate support information responsive to the at least one inquiry.

 15. The method of claim 14, wherein the service interface comprises a
20 workstation.

 16. The method of claim 14, wherein the step (a) of receiving comprises a step of c) receiving the at least one inquiry via a telephone call.

 17. The system of claim 14, wherein the step (a) of receiving comprises a step of d) receiving the at least one inquiry via a network-enabled connection.

25 18. The method of claim 17, wherein the network-enabled connection comprises an Internet connection.

5 19. The method of claim 14, wherein the step (b) of accessing comprises a
interrogating at least one network-enabled information source via a search engine according
to the at least one inquiry.

 20. The method of claim 19, wherein the at least one network-enabled information
source comprises at least one of a financial information feed, a tax information database, and
10 a customer account database.

 21. The method of claim 19, wherein the at least one network-enabled information
source comprises a plurality of network-enabled information sources.

 22. The method of claim 14, wherein the step (b) of accessing comprises a step of
e) operating a Web browser.

15 23. The method of claim 22, wherein the step (e) of operating a Web browser
comprises a step f) of accessing at least one of a product-specific Web page and a non-
product specific Web page.

 24. The method of claim 14, wherein the step (a) of receiving at least one inquiry
comprises a step of g) receiving the at least one inquiry in a call center.

20 25. The method of claim 14, wherein the support information comprises information
related to mutual fund products.

 26. The method of claim 14, further comprising a step of h) modifying the support
information based upon further inquiry information.

5

ABSTRACT

A financial customer support system provides an integrated gateway to a service operator fielding financial service calls via a call center or other facility. Service attendants taking calls via an automatic call distributor or other channels have access to a workstation communicating with the transaction server, which in turn has access to multiple information sources for mutual fund families, tax and other information. Because the attendants at the call center or other service site need not resort to printed information or need to correlate information from multiple sources, responsiveness is increased and quality of information is improved. Different levels or hierarchies may be clicked through or accessed according to particular client requests.

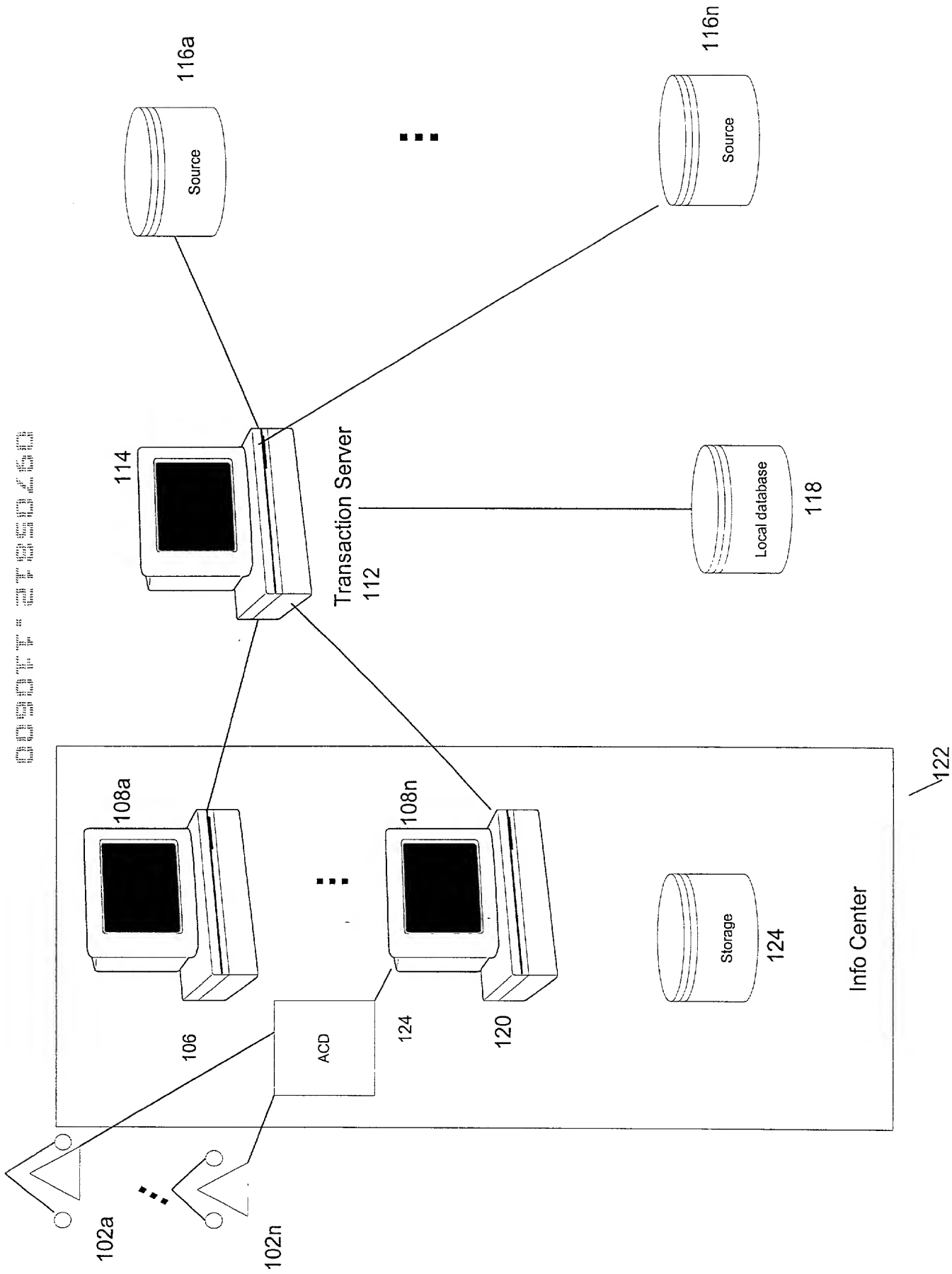


Figure 1

Nonfund-specific Site Map

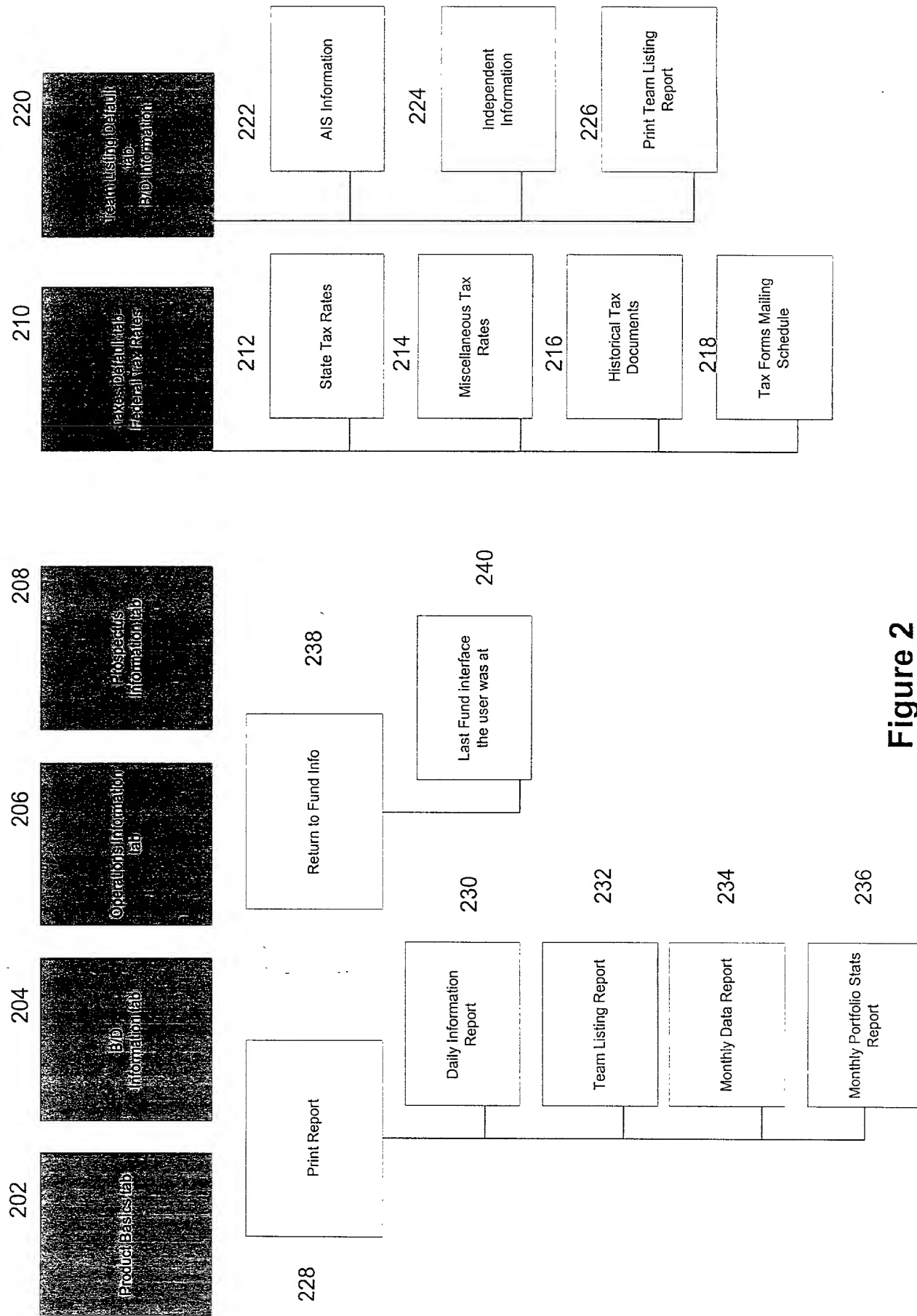
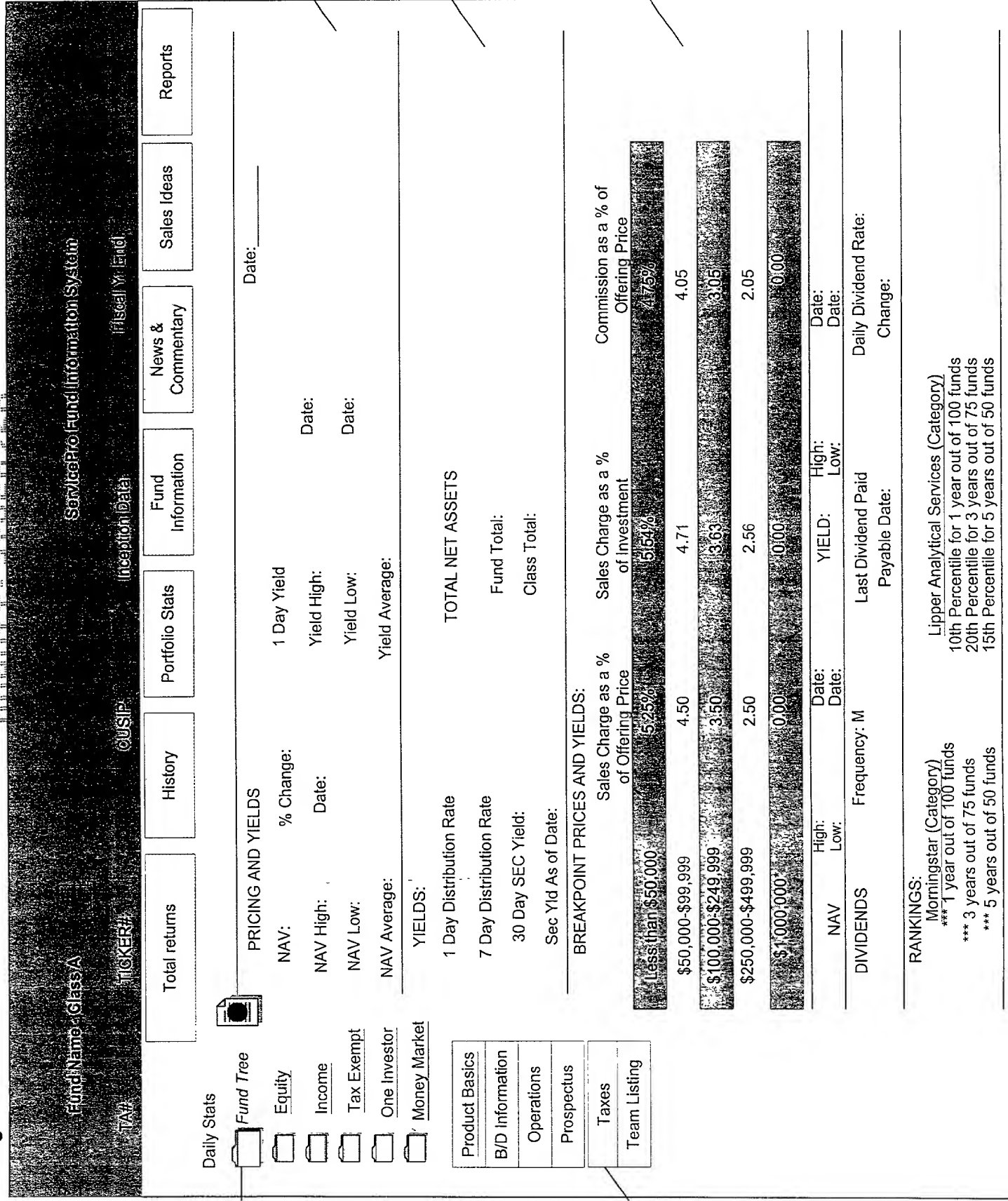


Figure 2

Look and Feel: Web Browser



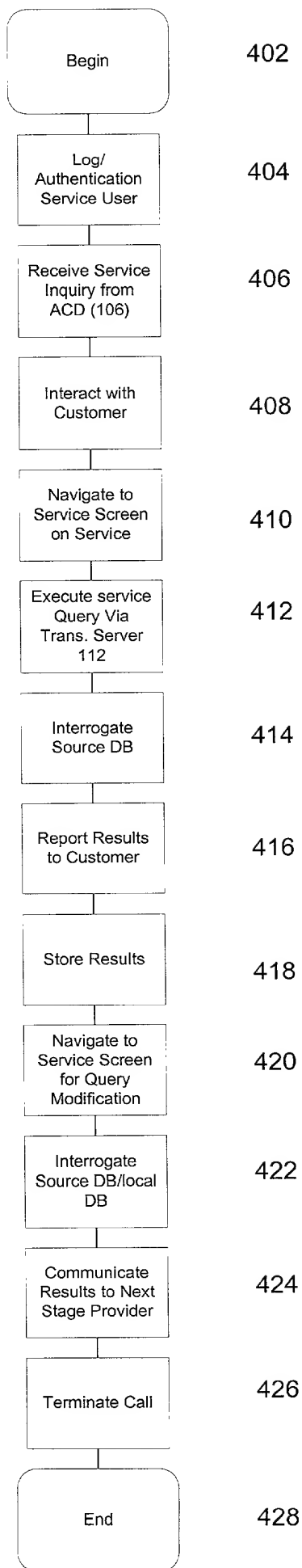


Figure 4

JOINT DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

As the below named inventors, we hereby declare that:

Our residences, post office addresses and citizenship are as stated below next to our names;

We believe that we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled SYSTEM AND METHOD FOR AUTOMATED DATABASE ASSISTANCE TO FINANCIAL SERVICE OPERATORS, the specification of which

- ☒ is attached hereto.
- ☐ was filed on _____ as Application Serial Number _____ and was amended on _____ (if applicable)

We hereby state that we have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to in this declaration.

We acknowledge the duty to disclose all information known to us to be material to the patentability of this application, as defined in 37 C.F.R. § 1.56.

We acknowledge the duty to disclose to the Office all information known to us to be material to patentability as defined in § 1.56, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Prior Foreign Application(s)

We hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Country	Application Number	Date of Filing (day, month, year)	Date of Issue (day, month, year)	Priority Claimed Under 35 U.S.C. 119
				Yes <input type="checkbox"/> No <input type="checkbox"/>
				Yes <input type="checkbox"/> No <input type="checkbox"/>

Prior United States Provisional Application(s)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below

Application Serial Number	Date of Filing (day, month, year)

Prior United States Application(s)

We hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, we acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial Number	Date of Filing (day, month, year)	Status - Patented, Pending, Abandoned

And we hereby appoint, both jointly and severally, as our attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith the following attorneys, their registration numbers being listed after their names:

Thomas J. Scott, Jr., Registration No. 27,836; Stanislaus Aksman, Registration No. 28,562; James G. Gatto, Registration No. 32,694; Christopher C. Campbell, Registration No. 37,291;; Henry C. Su, Registration No. 37,738; Brian M. Buroker, Registration No. 39,125; Charles F. Hollis, Registration No. 40,650; Jonathan D. Link, Registration No. 41,548; Kevin T. Duncan, Registration No. 41,495; George Georgellis, Registration No. 43,632; Christopher J. Cuneo, Registration No. 42,450; Raphael A. Valencia, Registration No. 43,216; Scott D. Balderston, Registration No. 35,436; Steven P. Klocinski, Registration No. 39,251; Yisun Song, Registration No. 44,487; Jennifer A. Albert, Registration No. 32,012; Kerry Owens, Registration No. 37,412; Devin S. Morgan, Registration No. 45,562; Andrew J. Ririe, Registration No. 45,597; Carl Benson, Registration No. 38,378; Thomas E. Anderson, Registration No. 37,063; Thomas Blasey, Registration No. 33,475; Robin Clark, Registration No. 40,956; René Vazquez, Registration No. 38,647, Stuart I. Smith, Registration No. 42,159; Ozzie Farres, Registration No. 43,606; David H. Milligan, Registration No. 42,893; Herbert V. Kerner, Registration No. 42,721; Scott F. Yarnell, Registration No. 45,245 and David M. Huntley, Registration No. 40,309.

All correspondence and telephone communications should be addressed to Hunton & Williams, 1900 K Street, N.W., Washington, D.C. 20006-1109, telephone number (202) 955-1500, which is also the address and telephone number of each of the above listed attorneys.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature	_____			Date	_____
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